Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109

Proposed Amendments to Regulation 8, Rule 3: Architectural Coatings

and

Manual of Procedures, Volume I, Number 7: Emissions Averaging Procedure For Architectural Coatings

DRAFT
Staff Report

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EXECUTIVE SUMMARY

Regulation 8, Rule 3 limits the volatile organic compound (VOC) content of paints and coatings used on architectural structures, their appurtenances, pavements and curbs. VOC's are hydrocarbons that enter the atmosphere from various sources, including: gasoline refining, distribution and marketing; evaporation of the organic solvents in paints, coatings and consumer products such as deodorants, hair spray, cleaning products, and insecticides; and from incomplete combustion of fuels in motor vehicles. These VOC's react with oxides of nitrogen (NO_x) in the presence of ultraviolet light to produce ozone, or photochemical smog. Reduction of VOC's is the focus of the proposed 2001 San Francisco Bay Area Ozone Attainment Plan for the 1-Hour Ozone Standard. Rule 3 affects coating manufacturing, wholesale and retail sales, and use. The proposed amendments, as in Control Measure SS-11 in the Ozone Attainment Plan, will impose more stringent VOC requirements on some categories of coatings. The proposed amendments are derived from a Suggested Control Measure (SCM) developed by staff of the California Air Resources Board (CARB) and approved by CARB on June 22, 2000. The SCM, and proposed Rule 3 amendments, contain definitions, VOC limits, container labeling requirements, reporting requirements, and references to test methods for compliance determinations. The proposed new chapter in the Manual of Procedures, Volume I, Number 7: Emissions Averaging Procedure for Architectural Coatings, is also derived from the SCM.

In association with the proposed amendments to Rule 3 and to the Manual of Procedures, staff have prepared a Draft Environmental Impact Report (EIR). The Draft EIR is tiered from the Program EIR certified by CARB at their June 22, 2000 hearing. It also contains analyses of potential environmental impacts specific to the Bay Area. The Draft EIR concludes that there are no significant potential adverse environmental impacts associated with the adoption of the proposed amendments to Rule 3. The comment period for the Draft EIR closes at 5:00 pm, November 5, 2001.

Architectural coatings emit an estimated 24.7 tons of VOC emissions in the Bay Area each day. The proposed amendments are expected to reduce VOC emissions from architectural coatings by 3.75 tons per day. This represents an emission reduction from this source category of 15%. The proposed Rule 3 amendments will also account for a significant part (46%) of the 8.2 tons VOC per day reduction from stationary sources necessary to meet the commitments of the 2001 Ozone Attainment Plan.

The cost of the proposed amendments is expected to range from $2.70 to $3.90 per pound of VOC emission reduced ($5400 to $7800 per ton VOC emission reduced). The price of a gallon of paint to the consumer is expected to increase by an average of $5.20, although the increase for more commonly used paints and coatings is expected to be significantly less. The decrease in manufacturers' Return on Equity calculated in the CARB staff report was 1.1%, which is considered less than significant. This cost is in the range of

costs projected by CARB for consumer product regulations, from $0 to $6.90 per pound of VOC reduced. The cost of the proposed amendments is also within the cost estimates of other measures projected in the 2001 Ozone Attainment Plan, which range from from $1000 to $12,000 per ton VOC reduced.

The SCM adopted by the CARB is the result of eight public workshops and many meetings with industry and the statewide CAPCOA steering committee. Staff will discuss rule amendments at a public workshop scheduled for October 22.

BACKGROUND

Regulation 8, Rule 3: Architectural Coatings imposes volatile organic compound (VOC) limits on paints and coatings applied to architectural structures. Coatings with VOC contents (a measure of the amount of organic solvent) above the limits may not be sold, distributed or used in the District. Architectural coatings are any coatings, including primers, sealers, and stains, sold for application to stationary structures and their appurtenances, including houses, buildings, bridges, tanks, railings, streets, highways and curbs. The rule affects manufacturing, sale, distribution, and use of architectural coating products. The Rule contains a general VOC limit and numerous categories of products that have specific VOC limits. The specific category VOC limits are based on unique properties of the coating product that dictate the need for higher levels of VOC, or special characteristics of the application or substrate which have demonstrated the need for specific types of coating with higher levels of VOC.

The Bay Area District is designated as a non-attainment area for the federal one hour ozone standard. Ozone, a criteria pollutant, is formed from a reaction of volatile organic compounds and oxides of nitrogen in the presence of ultraviolet light (sunlight). The EPA has set primary national ambient air quality standards (NAAQS) for ozone and other air pollutants to define the levels considered safe for human health. The District is designated as an unclassified non-attainment area for the NAAQS for ozone. This means that the District is not classified into one of the standard federal categories of moderate, serious, severe, or extreme pursuant to the 1990 Clean Air Act Amendments. EPA had redesignated the Bay Area to attainment status for the national 1-hour ozone standard on May 22, 1995. The EPA did this because the Bay Area attained the ozone standard at the end of the 1992 ozone season (having had three “clean” years – 1990, 1991 and 1992), and had maintained the standard in 1993 and 1994. In the summers of 1995 and 1996, the Bay Area experienced a number of episodes of hot, stagnant weather. This led to exceedances of the standard. EPA received two petitions requesting redesignation of the Bay Area to nonattainment status (63 Fed. Reg. 37261). EPA determined that the "contingency measures" in the *Ozone Maintenance Plan*, approved by EPA in 1995 were not adequate to bring the region back into compliance with the standard and that the

region's adopted and projected actions would not be sufficient to re-establish attainment of the standard.[1]

EPA published a final notice that revoked the region's ozone attainment status on July 10, 1998.[2] The co-lead agencies responsible for air quality planning in the Bay Area, the District, the Association of Bay Area Governments, and the Metropolitan Transportation Commission, prepared the *1999 Ozone Attainment Plan* to comply with these requirements. The 1999 Plan was submitted to EPA in August, 1999. The deadline EPA set for attaining the 1-hour national ozone standard was November 15, 2000. The region continued to experience exceedances of the 1-hour ozone standard in 1999 and 2000. Emission reductions from control measures in the *1999 Ozone Attainment Plan* did not prove to be sufficient to bring the Bay Area back into compliance. On March 30, 2001, EPA proposed to make a formal finding that the Bay Area has not attained the national 1-hour ozone standard. The notice also proposed partial approval and partial disapproval of the 1999 Plan[3]. The notice, finalized on August 28, 2001, set new planning requirements for the District and co-lead agencies[4]. On July 18, 2001, the Board of Directors of the District approved the San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard. The Plan was submitted to the CARB as an amendment to the California State Implementation Plan, but was not approved. The Plan, since revised by staff, is scheduled to be again considered at a joint meeing of the co-lead agencies, BAAQMD, MTC, and ABAG, on October 24, 2001 and, if approved, by the CARB on November 1, 2001. The Plan contains new transportation, mobile source and stationary source control measures. Among the stationary source control measures is a commitment to adopt amendments to District Regulation 8, Rule 3: Architectural Coatings, based on the provisions of the SCM.

The Bay Area District is also designated as a non-attainment area for the California one hour ozone standard. The California Air Resources Board set the ozone standard at a level of 9 parts per hundred million (pphm) for a one-hour average, significantly more stringent than the national standard of 12 pphm. Under the requirements of the California Clean Air Act of 1988, areas not complying with the standard must prepare plans to reduce ozone. Plans were required in 1991 and each three years thereafter. The most recent District Clean Air Plan to meet this requirement was prepared in 2000 and adopted by the District Board of Directors on December 20, 2000.[5] In the 2000 Plan, control measure #A1 commits to reduce emissions of VOC from architectural coatings by amendments to Regulation 8, Rule 3 based on the SCM.

[1] San Francisco Bay Area Ozone Attainment Plan (proposed), September 2001, BAAQMD
[2] 63 Federal Register 37258
[3] 66 FR 17379
[4] 66 FR 48340
[5] Bay Area 2000 Clean Air Plan and Triennial Assessment, December 2000, BAAQMD

REGULATION 8, RULE 3 REGULATORY HISTORY

Regulation 8, Rule 3 was adopted by the Board of Directors on March 1, 1978. The rule was amended on May 20, 1981 to extend a small business exemption and extend the compliance dates for the general architectural coating VOC limit in the rule. On September 1, 1982, the rule was again amended to extend compliance dates and provide for temporary exemptions. On December 1, 1982, amendments further extended the compliance date. Administrative requirements and references to test methods were added on March 17, 1982. VOC limits, adjustments of compliance dates for those limits and definitions for categories of coatings were added on May 18, 1983 and again on January 8, 1986. Final VOC limits for general architectural coatings became effective on March 4, 1987, and limits for specialty categories of coatings became effective on September 1, 1987.

On January 17, 1990, the District Board of Directors adopted amendments to Regulation 8, Rule 3 to implement the recommendations of the CARB's previous SCM, adopted in May of 1989. The recommendations included definitions, labeling requirements and VOC content limits for some coatings. Subsequent to the adoption by the District Board, a group of coating manufacturers filed a lawsuit against the District, other districts in California, and the Air Resources Board, alleging that the adoption of the rule amendments had the potential to have an adverse effect on the environment, and, therefore, required an Environmental Impact Report under the California Environmental Quality Act (CEQA). The courts agreed with the plaintiffs on the CEQA issue, and voided the 1990 amendments. Although the lawsuit was successful in overturning the 1990 amendments, the final elements of the lawsuit were finally settled only in May of 1998.

From 1992 through 1994, under the Federal Advisory Committee Act, District staff, along with staff of CARB and representatives of industry, other state agencies, environmental groups and EPA participated in a national regulatory negotiation regarding a nationwide rule for architectural and industrial maintenance coatings. This federal action was derived from Section 183(e) of the Clean Air Act. In spite of two years of negotiations, the regulatory negotiation group failed to reach consensus, and the EPA finally promulgated National Volatile Organic Compound Emission Standards for Architectural Coatings on September 11, 1998. [6] California districts were not able to achieve emission reductions from promulagation of the national rule, as the majority of VOC limits set were higher than, or, at best, equal to, VOC limits in effect in the District, and in many areas of California, since the late 1980's. The significant exception was for traffic coatings. However, Caltrans, the largest user of traffic coatings, already used coatings that were in compliance with the national VOC standard, except in the extreme

[6] 63 FR 48877

northwest area of California. The SCM included an estimate that the national rule would only reduce VOC emissions from traffic coatings by 0.36 tons/day statewide.[7]

In 1998, and for some years prior, the Sherwin Williams Company was subject to a variance granted by the District Hearing Board to sell a low solids exterior wood stain. Similar variances were requested, and granted, throughout California. This coating, based on newly developed low solids resin technology, provided coverage comparable to other exterior wood stains, and emitted less organic solvent. However, the coating did not comply with the VOC limits in the District's architectural coating rule due to the calculation procedure in the test method in which water is subtracted from the volume of the coating. After a convincing demonstration of the product, staff recommended support for a variance sought by Sherwin Williams for sale and use of this coating in the Bay Area. Staff committed to amend Regulation 8, Rule 3 to accommodate low solids stains, which would allow this Sherwin Williams product to be compliant, and satisfied the requirement that variances of greater than one year in duration have a compliance schedule.[8] An amendment to Rule 3 to incorporate a definition of low solids coating, a reference to a calculation method in the test procedure and an allowable VOC limit of 120 grams / liter was adopted by the District Board on November 4, 1998. The proposed amendments were not opposed by any representatives of the coating industry.

Staff of the California Air Resources Board (CARB), in conjunction with staff of California air districts and under the direction of the California Air Pollution Control Officers Association (CAPCOA), developed a suggested control measure (SCM) for architectural coatings based on work done in 1998, 1999 and 2000. Although control of stationary sources, including architectural coatings, is the jurisdiction of air pollution control districts, the CARB was able to devote sufficient staff resources to conduct and analyze a survey of architectural coatings sold in 1996 in California, which in turn became the basis for proposed VOC limits in the SCM. Because of the nature of distribution patterns of various companies, a greater resolution of sales data, such as on a district by district basis, is often not possible. In addition, the state had the resources to conduct a series of public workshops for manufacturers, distributors, sellers and users of coatings in a more efficient manner than would each district, if done separately. A variety of objectives were considered, including statewide architectural coating emissions inventory adjustments, technically based lower VOC limits, flexibility for manufacturers, reactivity based standards and a comprehensive CEQA analysis. From the summer of 1998 through the spring of 2000, CARB staff conducted eight public workshops to discuss the proposed SCM as well as numerous additional meetings with industry and the CARB/districts archtectural coatings workgroup. The process resulted in a new SCM,

[7] Staff Report for the Proposed Suggested Control Measure for Architectural Coatings, CARB, June 2000, p. 218.
[8] CH&SC §42358

adopted at a CARB public hearing on June 22, 2000. At that hearing, CARB certified a Program Environmental Impact Report for the SCM.

To date, the Sacramento Metropolitan Air Quality Management District has been the only district to adopt amendments to its architectural coatings rule based on the SCM. Most other districts in the state are currently in the process of developing amendments to architectural coating rules, including the San Joaquin Valley Unified APCD, San Diego APCD, Ventura County APCD, Santa Barbara APCD, Yolo-Solano AQMD and Northern Sonoma APCD. All these districts, with the possible exception of Northern Sonoma, will schedule public hearings before the end of 2001. The South Coast AQMD had, in November, 1996, adopted amendments to their Rule 1113: Architectural Coatings, that contain future VOC limitations more stringent than those found in the SCM or in the proposed amendments to Rule 3.

PROPOSED AMENDMENTS TO REGULATION 8, RULE 3

The Suggested Control Measure was adopted by the California Air Resources Board on June 22, 2000. The proposed amendments to District Rule 3 are derived from the SCM, as was expected from the statewide process. The SCM sets allowable VOC content limits based on existing and currently developing coating technologies for a number of architectural coating categories, including flats, nonflats, industrial maintenance, lacquers, floor, roof, rust preventative, stains, and primers, sealers, and undercoaters. Further information regarding CARB's SCM for architectural coatings is presented in the CARB staff report and Final Program EIR.

Rule 3 affects any person who supplies, sells, offers for sale, or manufactures any architectural coating for use within the District, as well as any person who applies or solicits the application of any architectural coating within the District. The proposed revisions to Rule 3 involve lowering the VOC content limit for a number of architectural coating categories. The proposed revisions also include increasing VOC content limits for several coatings, because a few specific types of coatings cannot meet the reduced VOC limits for broader categories. These revised VOC limits will be consistent with the corresponding limits in the SCM. The subject categories are Antenna Coatings, Anti-fouling Coatings, Faux Finishing Compounds, Flow Coatings, Rust Preventative Coatings, and Temperature-Indicator Safety Coatings.

These provisions add a product-line averaging compliance option to the rule. It allows manufacturers to average designated coatings such that their averaged cumulative emissions are less than or equal to the cumulative emissions that are allowed under strict gallon-by-gallon compliance with the VOC limits in the rule. The averaging compliance option is only in effect from January 1, 2003 until January 1, 2005. The language includes a VOC ceiling, or maximum VOC limit for coatings that may be used in an averaging compliance option. The issue of a VOC ceiling came up as CARB and the

South Coast AQMD were working on specific guidelines for the averaging program. The VOC ceiling was adopted by the Sacramento Metropolitan Air Quality Management District in June, 2001. The maximum limits represent the most common Sacramento District limits in effect when the SCM was approved in June, 2000. Statewide consistency is an important element of the averaging compliance option because averaging is done on a statewide basis. Therefore, Rule 3 proposes the same maximum VOC ceiling limits for averaging. The procedures and calculations for the averaging program are proposed to be adopted as part of the Manual of Procedures, Number 1: Enforcement Procedures, Number 7: Emissions Averaging Procedure for Architectural Coatings.

The following is a description of the proposed changes on a section by section basis:

100: General

An applicability section has been added, consistent with the SCM, that clarifies whom the rule is intended to regulate. A severability section has been added, replicating language in District Regulation 1, that states that if a portion of Rule 3 is found invalid by court action, other provisions of the Rule remain in effect. Exemptions have been collapsed into one section from three, and one new exemption has been added, to state that aerosol coatings are not subject to this rule. This is clarification only, aerosol coatings have never been subject to this rule.

200: Definitions

Every definition in the existing rule has had new language added, consistent with language developed for the SCM and adopted by the California Air Resources Board. The following definitions are new to the rule: adhesive; aerosol coating product; antenna coating; antifouling coating; appurtenances; bituminous roof coating; bituminous roof primer; clear brushing lacquers; clear wood coatings; coating; colorant; exempt compound; faux finishing coating; fire resistive coating; flat coating; floor coating; flow coating; form-release compound; high temperature coating; magnesite cement coating; nonflat – high gloss coating; non-industrial use; post-consumer coating; pre-treatment wash primer; recycled coating; residential; rust preventative coating; sanding sealer; secondary coating (rework); shop application; solicit; stain; swimming pool coating; swimming pool repair and maintenance coating; temperature-indicating safety coating; tint base; VOC content; waterproofing concrete/masonry sealer; and, wood preservative. All of these definitions are reflective either of new coating categories or are to explain terms used elsewhere in Rule 3.

The following definitions are proposed to be deleted: below ground wood preservatives (replaced by wood preservatives); enamel undercoaters (replaced by undercoaters); opaque stains (replaced by stains); opaque wood preservatives (replaced by wood preservatives); semi-transparent stains (replaced by stains); specialty flat products

(subsumed by specialty primers, sealers and undercoaters; tile-like glaze coatings (subsumed within nonflat-high gloss coatings or industrial maintenance coatings); waterproof mastic coatings (subsumed within waterproofing sealers); and, the resin specific types of industrial maintenance coatings: acrylic polymers, alkyds, catalyzed epoxy, chlorinated rubber, inorganic polymers, silicones, unique vehicles, urethane polymers and vinyl chloride polymers.

Finally, these definitions are proposed for amendment: architectural coatings; bituminous coating materials (to become bitumens); bond breakers; concrete curing compounds; fire retardant coating; general primers (to become primers); general sealers (to become sealers); general undercoaters (to become undercoaters); graphic arts coatings (sign paints); industrial maintenance coating; lacquer; low-solids coating; mastic texture coatings; metallic pigmented paints; multi-colored coatings; nonflat coatings; quick dry enamels; quick dry primer, sealer and undercoater; roof coating; shellac; specialty primer, sealer and undercoater; traffic coating (to become traffic marking coating); varnishes; volatile organic compound; and, waterproofing sealer. The changes in these definitions will be consistent with the SCM, and consequently, consistent across the state with the exception of the definition for volatile organic compound.

Compounds designated by the EPA as having a negligible effect on photochemical reactivity are exempted in the definition of volatile organic compounds in Rule 3. An exemption means that the mass of those compounds is not counted in the calculation of the total mass of VOC in a coating. The exempt compounds can be added to coatings to thin them or used to replace photochemically reactive solvents without adding to the VOC content. The exemption, then, encourages the use of exempt compounds to meet VOC limits. Because some exempt compounds have other detrimental attributes such as toxicity or stratospheric ozone depletion potential, the District Board of Directors adopted a Stratospheric Ozone Policy in 1991, instructing staff to consider the impacts of VOC exemptions on a rule by rule basis. In accordance with that policy, staff have not added ozone depleting or toxic compounds to the list of exempt compounds in the past, and now propose to delete methylene chloride (a hazardous air pollutant and carcinogen) and 1,1,1 trichloroethane (a hazardous air pollutant, mutagen, and ozone depleting compound).

The remaining compounds exempt from the definition of VOC in Rule 3 are acetone, parachlorobenzotrifluoride (PCBTF), and the completely methylated siloxanes (VMS). These compounds are not toxic nor are they stratospheric ozone depletors. Staff have proposed exemptions for these compounds based on analyses as iterated in the staff report that accompanied rule amendments in December, 1995. Staff propose to add methyl acetate to the exempt list.

On April 1, 1998, the US EPA exempted methyl acetate from control based on a determination that methyl acetate had a negligible effect on atmospheric photochemical

reactions.[9] Methyl acetate is a low boiling ester solvent that rapidly evaporates. It may be useful as a substitute coating solvent because it is soluble in water, alcohol, acetone and a variety of other solvents. It is not an ozone depleting chemical and has not been found to be toxic by the US EPA or state of California. It is flammable and has a fruity odor characteristic of esters. The odor threshold, that concentration at which the chemical can be detected, is 4.6 parts per million, just slightly lower than methyl ethyl ketone, a commonly used coating solvent. It is not considered to be a significant contributor to global warming.[10]

Staff have examined the "de-listing" or de-regulation of methyl acetate and found that, even if usage increases as a substitute for non-exempt VOC that are ozone forming, it should not present any potential adverse air quality impacts. Typically, the odor of esters is not found to be unpleasant to most people compared to a variety of other solvents. Architectural coatings often have esters already in the solvent mixture so it is not expected that the addition or substitution of methyl acetate will result in the creation objectionable odors.

The removal of compounds considered exempt in Rule 3 that are stratosopheric ozone depletors or toxic allows staff to expand the definition VOC for low solids coating to include solvent based coatings. The current VOC definition for low solids coatings (those with no more than 1 lb of solid material per gallon) differs from that of conventional coatings in that it includes water in the calculation of the coating volume. In conventional (higher solids) coatings, water and any exempt compounds is subtracted from the coating volume. The coating volume and mass of VOC is then calculated so as to equal one liter (or gallon). This is to prevent dilution of coatings with water or exempt compounds so as to artificially comply with the VOC limits. This calculation, however, cannot be used for low solids coatings. For water based coatings with a very small amount of solids, subtracting the water leaves very little material. When calculated so as to equal one liter, a small mass of solvent is multiplied many times, precluding compliance with VOC limits. As an example, in a liter (about one quart) of water-borne coating that contains only one tenth of a liter of solids and only 120 grams of solvent, the volume of solids and solvent would fill less than one quarter of the can. To subtract the water from the volume would mean that the calculated VOC of the coating would be over 500 g/l. Consequently, the VOC definition for low solids coatings allows water to be included in the volume calculation. Staff propose, for low solids coating, to add exempt solvents to the VOC definition. This would allow exempt solvents to be included in the calculation of the volume of the coating to determine compliance with VOC standards. It is anticipated that some solvent based stains or wood preservatives may be developed that will use low solids technology. This change would be consistent with other VOC definitions in the rest of the state and with the SCM. Coupled with the deletion of

[9] 63 Fed Reg 17331, US EPA, April 9, 1998
[10] Hazardous Substance Fact Sheet, New Jersey Dept. of Health and Senior Services, Dec., 1996

deleterious compounds from the list of exemptions in the VOC definition, users of coating will be protected from adverse health effects of solvent based low solids coatings. A full discussion of the potential environmental impacts is found in the Draft EIR.

Section 8-3-300: Standards

The standards section of Rule 3 has been rewritten to reflect the VOC limits in the SCM. There are three general categories of architectural coatings and a fourth category of specialty coatings which includes 43 subcategories, which have new or modified definitions, as described above. Currently in Rule 3, there is a general category of coatings and subcategories of specialty coatings. All coatings that do not fit into a definition of a specialty subcategory default into the general coating VOC limit. Historically, the general category is made up of flats and nonflats. Nonflats had a higher VOC limit than flats, 380 g/l vs. 250 g/l, until 1987, at which time the VOC limit for nonflats was reduced to 250 g/l. In development of the SCM, CARB staff looked at available coatings for the flat and nonflat categories and determined that, although substantial progress had been made in reducing the need for VOC in both flats and nonflats, there is still a need for more solvent in nonflat coatings. These coatings have more resin and less pigment than flats, and consequently need more solvent to dissolve and carry the resin component of the coating. The SCM, and proposed amendments to Rule 3, have broken the general coating category into three, depending on gloss and the necessity for some additional solvent for each level of gloss. These categories, as measured by a meter as a percentage that reflects light bounced off the finish at a 60^{o} or an 85^{o} angle and measured against a reference beam, are flats (gloss of less than 5 on a 60^{o} meter or less than 15 on an 85^{o} meter); nonflats (gloss of greater than 5 on a 60^{o} meter or greater than 15 on an 85^{o} meter); and nonflat high-gloss coatings (gloss of greater than 70 on a 60^{o} meter). The proposed VOC limits, to go into effect in 2003, are 100 g/l for flats, 150 g/l for nonflats, and 250 g/l for nonflat high-gloss coatings (the current VOC limit). Nonflats include eggshell, satin, semi-gloss, and gloss finishes.

Many architectural coatings do not fit neatly into one of the subcategories, or may be recommended for more than one use. In these cases, both the existing Rule 3 and proposed amendments specify that coatings advertised or recommended for more than one type of usage will be subject to the VOC limit that is the most stringent of two or more categories. This is to prevent the utilization of a higher VOC limit for coatings that are not really intended for a specialized use. However, there are some types of coatings that cannot be formulated to lower VOC contents, even though they may be useful on other types of substrates or for more than one use. Section 8-3-302 of the proposed rule is revised to express that the lower VOC limit will apply for coatings for which a multiple use is suggested, with the following exceptions: antenna coatings; antifouling coatings; bituminous roof coatings; fire-retardant coatings; flow coatings; high temperature coatings; industrial maintenance coating; lacquer and lacquer sanding sealers; low-solids coatings; metallic pigmented coatings; pretreatment wash primers; shellacs; specialty

primers, sealers and undercoaters; temperature-indicator safety coatings; and wood preservatives.

Section 8-3-303 of the proposed amendments allows a sell-through of coatings for up to three years from the date the new VOC limits go into effect. The purpose of this provision is so that coating in the distribution chain and in stores does not have to be disposed of as hazardous waste as a result of becoming illegal. Manufacturers, however, will have to begin compliance with the new VOC limits on the effective dates. Users of coatings, whether homeowners or contractors, will have an indefinite period of time to use coating that was legal to manufacture and sell at the time of purchase. Section 8-3-304 proposes to incorporate painting practices already enforced through the provisions of Regulation 8, Rule 1. They require that containers of coating and solvent be covered when not in use to prevent solvent evaporation into the atmosphere. Section 8-3-306 will propose to prohibit excess thinning beyond what a manufacturer recommends to stay within the VOC limits of the coating category. Although compliance with the VOC limits in Section 8-3-301 is the responsibility of the coating applicator as well as the manufacturer and seller, there may be a different penalty schedule for a user who buys a non-compliant coating and a user who unintentionally thins a coating so as to exceed the VOC limit. This separate section will make it possible to proscribe a different penalty. Rust preventative coatings are a new category, specifically for solvent based systems that are designed to be used by the home owner or contractor on metal surfaces. The proposed Section 8-3-306 will clarify that rust preventative coating, with a higher VOC limit than industrial maintenance coating, will not be able to be used in an industrial setting. Finally, proposed Section 8-3-307 will clarify that any coating that does not meet the definition of one of the specialty coatings will be classified as a flat, nonflat or nonflat high-gloss coating depending on the finish gloss.

Section 8-3-308 proposes a compliance option that will give the manufacturer the ability to average coatings above the VOC limits with those below the VOC limits, provided that the cumulative emissions will equal the emissions that would have resulted from compliance with the limits. This was the subject of extensive discussion during the development of the SCM, and is a feature of the South Coast's rule for architectural coatings, Rule 1113. Averaging, due to distribution patterns of coating sales and the administrative burdens associated with the planning and record keeping, is not generally possible on a district by district basis. That would involve, in some areas of the state, tracking coating sales and usage across county lines. The averaging provision will allow coating manufacturers to average on a statewide basis. The staff of the CARB will administer the averaging, which will consist of review of averaging plans from manufacturers who wish to participate, notification to districts of coatings to be averaged, review of records and reports submitted by manufacturers including any proposed mitigation for companies that did not sell enough below-the-VOC-limit coating to successfully average against sales of above-the-VOC-limit coatings, and notification of enforcement actions to be taken by districts. Use of the averaging compliance option is

voluntary for a manufacturer. The averaging will only be allowed for a time period of two years, from January 1, 2003 when the lower VOC limits go into effect until January 1, 2005. The time frame will allow manufacturers who have both higher and lower VOC coatings to use the two years to work on reformulations for the higher VOC coatings. This provision is not intended to imply that lower VOC limits may be technically infeasible. The coating survey undertaken by CARB staff shows coating compliant with the 2003 VOC limits available now in every coating category. The intent is to alleviate some of the economic impacts associated with reformulating a varied coating line. It should be noted that averaging will not benefit all manufacturers. Those with limited coating lines or those with coating lines specializing in coatings in categories that are all subject to lower limits may not be able to take advantage of this option.

During the development of the SCM, Caltrans raised the issue of the use of low VOC industrial maintenance coatings in cool, humid coastal areas, such as on bridges along Highway 1. Although they currently use many coatings that meet the future 250 gram/liter VOC limit for industrial maintenance coatings, they stated that some coating applications at a higher VOC limit were necessary. This lead to the development of a limited allowance for higher VOC industrial maintenance coatings for coastal areas, including the BAAQMD. This provision is effective in the Bay Area, and would be effective in northern coastal districts, but is not effective statewide. It allows a user to petition for the use of an industrial maintenance coating of up to 340 grams VOC/liter if a need can be shown and a compliant coating cannot be found. There is a limit on the amount of coating that may be used each year under this provision, based on the excess emissions that it will cause (over the proposed 250 g/l VOC limit). Those emissions cannot exceed 5% of the emission reductions from the industrial maintenance coating category. In other words, if the allowance is completely used, the Bay Area will only achieve 95% of the emission reductions from industrial maintenance coatings that would be achieved through strict adherence to the VOC limit. As a result, for purposes of the State Implementation Plan and EPA approval of Rule 3, the District can claim only 95% of the emission reductions from the industrial maintenance category. This claimed emission reduction will allow the rule to be approved by EPA. The forgone emission reductions, further discussed below, amount to a little more than 0.027 tons per day, or 10 tons per year, in context of the total emission reductions from the proposed amendments of 2.9 tons per day.

Section 400: Administrative Requirements

In addition to regulatory requirements, the SCM and proposed amendments to Rule 3 will set administrative requirements. Rule 3 applies to manufacture, sale and also to use of products. This creates the question of how to effectively enforce VOC limits at the point of use, which could involve virtually every Bay Area citizen who ever does any painting. To help ensure uses for which coatings are intended, the amendments will set labeling requirements. The following information must be provided on all coatings: date of

manufacture or date code; thinning recommendation, if applicable; and VOC content. For the following types of coatings, labels must contain information directed at the particular type of use: industrial maintenance coatings; clear brushing lacquers; rust preventative coatings; specialty primers, sealers and undercoaters; quick dry enamels; and nonflat high-gloss coatings. For example, rust preventative coatings must state that the use is for metal substrates only, and specialty primers, sealers and undercoaters must state the intended use; for blocking stains, for fire damaged substrates, for smoke damaged substrates, for water damaged substrates, or for excessively chalky surfaces. A petition requirement, proposed in Section 8-3-402, will provide District staff the necessary information to evaluate a request to use industrial maintenance coating of greater than 250 grams VOC/liter.

Section 500: Monitoring and Records

This section will require reports on certain categories of coatings. The purpose of the reports is to enable the CARB staff to track potential changes in usage patterns for some specialty coatings which may affect the VOC emission reductions claimed in the rule. These types of coatings have higher VOC limits, so a shift to increase their usage, even though unlikely, would undermine the emission reductions expected. The coatings that require reporting are: clear brushing lacquers; rust preventative coatings; specialty primers, sealers and undercoaters; recycled coatings; and bituminous coatings. In addition, any coating that contains methylene chloride or perchloroethylene (both toxic air contaminants) will require reports. These reports need be submitted be each manufacturer, but need only be submitted once per year iterating an aggregate volume of these coatings sold in the state.

Section 600: Monitoring and Records

This section provides references for test methods used to verify either that a coating will meet a definition for a category of specialty coating, or a test method to determine compliance with the VOC standards. Compliance test methods are generally contained in the Manual of Procedures, in this case, within Volume III: Laboratory Procedures. Other methods, such as to determine gloss, acid content, metal content or fire resistance, are standardized American Society of Testing Methods (ASTM) procedures.

A new procedure is proposed to be incorporated into the Manual of Procedures, as Volume I: Enforcement Procedures, Number 7: Emissions Averaging for Architectural Coatings. This language is, with the exception of a brief introduction, identical to the language in the SCM. This is important as the program itself is a statewide program, as discussed above; however, without provisions in the District Rules, the program would not be available in the Bay Area. Amendments to the Manual of Procedures require District Board adoption, as do amendments to rules and will require submittal, along with the amendments to Rule 3, to the EPA for approval and inclusion in the California State Implementation Plan.

EMISSION REDUCTIONS

According to the proposed 2001 Ozone Attainment Plan, emissions of VOC from stationary sources must be reduced by over 8 tons/day to meet the federal air quality standard for ozone.[11] The BAAQMD does not have jurisdiction over all sources of VOC. Motor vehicles and other mobile sources are under the jurisdiction of CARB and the federal government. Also, CARB has jurisdiction over consumer products and aerosol paints Architectural coatings, specifically excluded as consumer products in the California Health and Safety Code definition[12], emit about 4.6% of the approximately 536 tons/day total Bay Area VOC. Of the VOC emissions that BAAQMD has jurisdictional control of, emissions from architectural coatings represent a little over 14%.

Architectural coatings emit an estimated 24.7 tons of VOC emissions in the Bay Area each day. Emission estimates are derived from periodic coating sales surveys conducted by the CARB staff and adjusted for the Bay Area. In preparation for the development of the SCM, CARB staff conducted a survey coatings sold in California. The survey was conducted in early 1998 and collected data on coatings sold in California in 1996. The surveyed coatings were broken down into coating categories and sales within 50 g/l VOC ranges. Because many coatings are sold currently with VOC content less than the VOC limits, VOC emission reductions, even considered on a per category basis, are less than they might appear from the proposed VOC limits. For example, flat coatings, which account for 36% of total architectural coatings volume, account for 15% of architectural coatings emissions. From an existing VOC limit of 250 g/l, the proposed VOC limit of 100 g/l will reduce emissions from this category of coatings by 17%. This is because over 48% of the flat coatings sold in California already comply with the proposed VOC limit of 100 g/l and many are between the existing and proposed VOC limits. Emission reductions, to be approved into a State Implementation Plan, must meet the criteria of being real, quantifiable, enforceable and permanent. The reductions are calculated by taking emissions from each 50 g/l increment of VOC for each category of coating that is in excess of the proposed VOC limits, and assuming reductions are made to the proposed limit. No allowance is made for greater coverage due to an increased solids content, nor for any reduction below the enforceable VOC limit.

The proposed amendments are expected to reduce emissions from architectural coatings by 3.75 tons VOC per day from an existing emission inventory of 24.7 tons per day. This represents an emission reduction from this source category of 15%. The proposed Rule 3 amendments will also account for a significant part (almost 46%) of the 8.2 tons VOC

[11] 2001 SF Bay Area Ozone Plan, op. cit.
[12] CH&C 41712(a)(1)

per day reduction from stationary sources necessary to meet the commitments in the 2001 Ozone Attainment Plan.

As dicussed previously, the proposed amendments contain a provision to allow some industrial maintenance coating to be used in the Bay Area that exceeds the 2004 VOC limit of 250 g/l. The excess emissions from this provision, that is, the emissions that result from the use of industrial maintenance coating between 250 g/l and 340 g/l that are in excess of an equivalent amount of coating at 250 g/l, must be no greater than 5% of the projected emission reductions from the category of industrial maintenance coating. The emissions inventory for the Bay Area shows that industrial maintenance coating currently is responsible for 973 tons of VOC emissions per year, 2.67 tons/day. The amendments will reduce VOC emissions from this category by 213.16 tons per year, 1.01 tons/day. Five percent of the emission reduction from this category is the allotment that may be used for excess emissions as a result of the industrial maintenance provision, 10 tons per year. Staff will verify petition requests and track emission totals to ensure that the total excess emissions do not exceed 10 tons in any year. This 10 tons per year, or 0.029 tons/day, is not counted as part of the 2.9 tons/day projected total reduction.

ECONOMIC IMPACTS

The CARB staff report that accompanied the SCM analyzed the economic impacts of the SCM, from which the proposed amendments to Rule 3 are derived. The CARB report analyzed and discussed the following topics: annual costs and cost effectiveness of the proposed VOC limits, economic impacts on California businesses, potential impacts on California state and local agencies, potential impacts on California consumers, and mitigation of potential impacts through regulatory flexibility. The costs were also analyzed by the South Coast AQMD in adoption of amendments to Rule 1113: Architectural Coatings. The future VOC limits in the South Coast rule are considerably more stringent, however, VOC limits in the SCM are similar, and in many cases identical, to interim VOC limits in the South Coast rule. CARB projected the cost effectiveness of the VOC limits to be from $2.70 to $3.90 per pound of VOC reduced, with an average of $3.20 per pound. This equates to a cost from $5400 to $7800 per ton of VOC reduced with an average of $6400. The South Coast had estimated a cost of $2.40 per pound ($4800 per ton). The CARB report notes that this compares to the range of costs reported for other California state consumer product regulation emission reductions, which range from no cost to $6.90 per pound of VOC reduced.

In addition to their own analyses and reliance on analyses done by South Coast staff for Rule 1113 and by EPA for the national rule, CARB staff surveyed industry for information and estimates on the costs of reformulation. 25 manufacturers responded to the survey. These respondents represented small, medium and large coating manufacturers and included manufacturers from all product categories with proposed reductions in VOC limits. The results are included in the cost effectiveness calculations.

The CARB staff report considers economic impacts on California businesses. The report calculates a Return on Equity to determine if the impact of the VOC limits in the SCM would have a significant effect on the profitability of businesses subject to revised district rules. Return on Equity measures net profit of a company divided by net worth, before and after the estimated costs to reformulate coatings. The report determined that the expected decrease in Return on Equity is 1.1%. Less than a 10% decrease in Return on Equity is not considered significant. However, some businesses, due to their product line offerings or small margins of profit, may suffer adverse impacts due to the expected costs of reformulation. Variances from district hearing boards are available for showings of adverse economic impacts consistent with good faith efforts to comply with district rules.

The CARB staff estimated that there would be no impacts to state or local agencies as a result of the VOC limits in the SCM. The CARB report also calculates the cost to consumers as a result of adoption of the SCM limits. The report estimates that the cost to consumers, which is measured in terms of cost per gallon rather than cost per pound of VOC emission reduced, will be from $4.80 to $6.40 per gallon with an average of $5.60. This assumes that reformulation costs are passed on rather than absorbed, and that the distributor and seller each doubles the manufacturers' projected cost increase, which ranges from $1.20 to $1.70 per gallon.

SOCIOECONOMIC IMPACTS

Subdivision (a) of the Health and Safety Code, Section 40728.5 states, "Whenever a district intends to propose the adoption, amendment, or repeal of a rule or regulation that will significantly affect air quality or emissions limitations, that agency shall, to the extent data are available, perform an assessment of the socioeconomic impacts of the adoption, amendment, or repeal of the rule or regulation." A socioeconomic impact analysis is being prepared by Applied Development Economics, of Berkeley, California. The report will examine the effect of the amendments for a variety of businesses based on estimates for control options as detailed below in the incremental cost section. Affected businesses include coating manufacturers both in and outside of the District, coating distributors and sellers, and painting contractors.

INCREMENTAL COSTS

Health and Safety Code, Section 40920.6 requires the District to (1) identify one or more control options which achieves the emission reduction objectives for the proposed revision, (2) review the information deveoped to assess the cost effectiveness of the potential control option, and (3) calculate the incremental cost effectiveness for the potential control options. To determine incremental cost effectiveness, the District must "calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as

compared to the next less expensive control option." Where only one control option is identified, no incremental cost analysis need be performed.

The Draft Environmental Impact report identifies several feasible alternative regulatory options and evaluates each in terms of the emission reductions that could be potentially achieved, and the potential environmental impacts of each. Of the feasible alternative options considered in the Draft EIR, only two would achieve the emission reduction objectives. These are: 1) Permanent Product Line Averaging, and, 2) Different VOC Limits. Product Line Averaging is a provision of the proposed Rule 3 amendments that allows a company to average the VOC contents of architectural coatings sold from January 1, 2003 until January 1, 2005. Permanent Product Line Averaging would remove the sunset date for this provision and allow VOC contents of architectural coatings above and below the VOC limits to be averaged to determine overall compliance on a permanent basis. Different VOC Limits, or a different mix of VOC limits, could achieve the same emission reduction objectives. This would involves staff developing a proposed set of VOC limits in a manner similar to CARB's development of the SCM from 1998 through 2000.

Permanent Product Line Averaging would provide a permanent degree of flexibility for coating manufacturers and create rule amendments that would be more cost effective, to the extent that temporary product line averaging creates a rule that is more cost effective. However, as noted in the Draft EIR, enforcement of the averaging provision is somewhat problematic. Averaging in the SCM and in the proposed amendments to Rule 3 is a statewide program, however, the rule must be enforceable in each district. Averaging entails staff at CARB to approve averaging plans, to review record keeping and reporting by manufacturers who elect to use this alternate form of compliance, report any violations to district staff and approve and report on mitigations for any violations. The ability of District staff to enforce this provision is dependent on CARB staff. Should CARB staff be disrupted or allocated to other programs, the ability to enforce averaging would suffer. Should averaging be a permanent option, administration of the program would shift to District staff, and companies would have to shift from a statewide to a district-wide program. Companies have already stated that, due to variable distribution patterns, they cannot track coating sales for averaging purposes on a district by district basis. Consequently, the incremental costs to businesses to change to a Bay Area only averaging program, if even feasible, would entail extra administrative costs that would outweigh the cost benefits of averaging. Also, it should be noted that an averagin program may not reduce emissions to the extent that strict compliance would with the VOC limits would. This is because sales of coatings above the VOC limits could be preserved by avereaging them against existing coatings previously formulated to below the VOC limits. It is for this reason that the averaging program is only allowed for two years, and is considered a regulatory flexibility option. The emission reductions under a permanent averaging program of this sort would be significantly less than 2.9 tons.

The other identified option, the adoption of a different mix of VOC limits than are proposed in the Rule 3 amendments, would create administrative and enforcement difficulties. That is because, at the same overall emission reduction as the proposed amendments, a different set of limits would mean that one coating might be legal to distribute, sell and use in the Bay Area but not legal outside of the Bay Area and another would be illegal inside the Bay Area but illegal outside. A much larger cost than the administration of coatings whose legality changed at the district borders, however, is the potential cost of reformulation of coatings when a lower VOC limit was in force only in the Bay Area. The cost of any reformulation effort, from a business perspective, must be weighed against the potential return. If the return is expected to be insufficient, based on low sales volume or low profit margins,a rational business decision would be to forgo Bay Area sales by not reformulating. The cost of reformulation for a different set of VOC limits would have to be weighed against the volume of coating expected to be sold in the Bay Area, rather than in most of California. Consequently, aside from the technical feasibility questions associated with reformulation to a different set of VOC standards, the cost effectiveness of the proposed limits would become more expensive, and the incremental cost of this option would be significantly greater, not less, than the cost of the proposed VOC limits.

ENVIRONMENTAL IMPACTS

Staff have prepared a Draft Environmental Impact Report (EIR) for the proposed amendments to Rule 3 that addresses potential environmental impacts. The Draft Environmental Impact Report is tiered from the Program Environmental Impact Report developed by CARB staff and certified by CARB at the June 22, 2000 hearing at which the SCM was adopted. The California Environmental Quality Act (CEQA) allows tiering whenever feasible. Tiering is the use of information and analyses of matters in a broader EIR that may be incorporated into an EIR for a specific project.[13] In this case, the Program EIR for the broader SCM, to apply to the entire state, tiers to the proposed amendments to Rule 3, the specific project. The CARB Program EIR is incorporated, by reference, into the District Draft EIR. Availability of the Draft EIR has been legally noticed, sent to the Bay Area counties, as is required by CEQA, and to the Metropolitan Transportation Commission, Association of Bay Area Governments, the California Office of Planning and Research and the California Air Resources Board. The Draft EIR has a 45 day comment period, after which, a Final EIR will be prepared for certification by the District Board along with adoption of the proposed amendments to Rule 3. The comment period will end on November 5, 2001.

The Draft EIR examines the potential environmental impacts of the proposed amendments on a variety of environmental attributes, focusing on air quality, water demand and water quality, public services, transportation and circulation, solid and

[13] 14 CCR § 15152 (a)

hazardous waste, and hazards. The Draft EIR considers particular issues that might be unique to the Bay Area, as a result of cooler and more humid coastal environments and potential impacts on San Francisco Bay. Also, project alternatives, including those suggested by industry, were considered. The Draft EIR concluded that the proposed amendments would not result in any significant adverse environmental impacts. The Draft EIR also concluded that, of the alternative projects considered, the only feasible alternative that achieved the equivalent emission reductions required by the proposed 2001 San Francisco Bay Area Ozone Plan, was the amendments to Rule 3 as proposed.

REGULATORY IMPACTS

Section 40727.2 of the California Health and Safety Code requires an air district, in adopting, amending, or repealing an air district regulation, to identify existing federal and district air pollution control requirements for the equipment or source type affected by the proposed change in district rules. The district must then note any differences between these existing requirements and the requirements imposed by the proposed change. Where the district proposal does not impose a new standard, make an existing standard more stringent, or impose new or more stringent administrative requirements, the district may simply note this fact and avoid the analysis otherwise required by this law.

This source category, architectural coatings, is affected by national VOC limits promulgated by the EPA and published in the Federal Register on September 11, 1998. The national rule, National Volatile Organic Compound Emission Standards for Architectural Coatings, was developed under Section 183(e) of the Clean Air Act. Section 183(e) required EPA to study the emissions of VOC from categories of consumer and commercial products (defined to include architectural and industrial maintenance coatings), assess their likelihood of contributing to ozone excesses, and regulate them in order of categorization. EPA is directed, in Section 183(e)(3) to, "account for at least 80 percent of the VOC emissions, on a reactivity adjusted basis, from consumer or commercial products in areas that violate the NAAQS for ozone."

The national rule only applies to manufacturers and importers of architectural coatings. Rule 3 applies to manufacture for sale in the District, but also imposes limitations and liabilities on distribution, sales and use in the District. This is because EPA can only regulate persons or facilities directly involved in interstate commerce. They reasoned that, even if a coating manufacturer does not ship interstate, they rely on interstate commerce for raw materials.

The national rule has significantly less stringent VOC limitations than either the existing or proposed District rule. Table 10.1, below, presents the VOC limits for the national rule, existing District rule and proposed amendments for the nine largest volume categories of architectural coatings. These are all the coating categories that individually

make up 2% or more of the total market. Together, they are approximately 88% of the architectural coating market.

Table 10.1: Comparison of National, District Architectural Coating Rules[14]

Coating type	EPA VOC limit (current)	District VOC limit (current)	Proposed 2003 VOC limit	Volume %
Flats	250 g VOC /liter	250 g VOC /liter	100 g VOC /liter	36%
Non-flats	380 g/l	250 g/l	150 g/l	23%
Primers	350 g/l	350 g/l	200 g/l	7%
Bituminous	500 g/l	420 g/l	300 or 350 g/l[(a)]	6%
Industrial Maintenance	450 g/l	420 g/l	250 g/l (1/1/2004)	5%
Roof	250 g/l	300 g/l[(b)]	250 g/l	3%
Traffic	150 g/l	250 g/l	150 g/l	3%
Nonflats - High Gloss	380 or 450 g/l	250 or 400 g/l[(c)]	250 g/l	2%
Quick Dry Primers	450 g/l	Exempt	200 g/l	2%

[(a)] Bituminous Roof coatings proposed at 300 g VOC /l, bituminous roof primers proposed at 350 g VOC /l.
[(b)] A lower VOC limit in the EPA rule is for coating manufacturing, but does not affect VOC limits at the point of usage.
[(c)] Coatings in this category include non-flats (250 g/l) and quick dry enamels (400 g/l).

In addition, there are 16 categories of coatings found in the national rule that are not found in the SCM or the proposed amendments to Rule 3. These categories of coatings are within the other coating categories in the existing District rule or, in one case, a type of coating not sold in California. Table 10.2 illustrates the categories in the EPA rule not reflected in the California SCM or proposed amendments, the rationale for not including them, and the category to which each fall in the proposed rule. In many cases, the coating categories fall within the definition of either existing coating categories that have been in effect for almost 15 years, or within the proposed definitional changes. In these cases, a number of products compliant with the proposed future VOC limits were identified by CARB staff in the architectural coatings survey.

Table 10.2: Comparison of EPA categories not found in proposed amendments to Rule 3

EPA Category	Proposed Rule 3 Category	Rationale
Anti-graffiti coatings	Industrial maintenance[(a)]	Compliant products exist
Calcimine recoaters	none	Not sold in California

[14] Volume percentages from "1998 Architectural Coating Survey Results, Final Report", CARB, Sept., 1999

Chalkboard resurfacers	Industrial maintenance	Compliant products exist
Concrete curing and sealing	Concrete curing or waterproofing concrete/masonry sealer	Compliant products exist
Concrete protective ctgs	Waterproofing concrete/masonry sealer	Compliant products exist
Concrete surface retarders	none	Not coatings[(b)]
Conversion varnishes	Varnishes	Compliant products exist
Extreme high durability coatings	Industrial maintenance[(c)]	Compliant products exist or are exempt
Heat reactive coatings	Industrial maintenance	Compliant products exist or are shop applied
Impact immersion coatings	Industrial maintenance	Compliant products exist
Nonferrous ornamental metal lacquers	Rust preventative	Not legal for use in California in existing rules
Nuclear coatings	Industrial maintenance	Compliant products exist
Repair and maintenance thermoplastic	Industrial maintenance	Compliant products exist
Stain controllers	Low solids coating	Compliant products exist
Thermoplastic rubber and mastic	Roof coatings	Not sold in California
Zone marking coatings	Traffic marking coatings	Compliant products exist

[(a)] Anti-graffiti coatings may be either permanent of sacrificial, which are designed to sluff off when graffiti is removed. Permanent anti-graffiti coatings would be classified as industrial maintenance coatings, sacrificial anti-graffiti coatings would be classified as flat or non-flat coatings. For both types, products compliant with the proposed future VOC limits exist.

[(b)] Concrete surface retarders are designed to slow the curing of concrete surfaces, which allows the surface to be brushed away. These are typically used in exposed aggregate concrete walls. Because no element of the retarder is retained in the finished wall, it is not considered a surface coating.

[(c)] Extreme high durability coatings are touch up coatings for shop applied fluoropolymer coatings on architectural aluminum extrusions. Touch ups for this coating are mostly from one quart cans, exempt under Rule 3.

There also exist differences between the national rule and the SCM and proposed amendments to Rule 3 in the areas of exemptions from the provisions of the rule, administrative requirements, and record keeping and reporting requirements. The national rule contains, in addition to an exemption for coatings sold in containers of one liter or less, an exemption for a certain tonnage of emissions in excess of the rule per manufacturer. This amount is 20 tons of VOC emissions from coatings per manufacturer for 2001 and 10 tons per manufacturer in each subsequent year, regardless of where the

exempt coatings may be distributed to, sold or used. The existing and proposed District rule contain no such mass VOC emission exemption. The national rule also allows manufacturers to exceed the VOC limits over and above the exemption amount by payment of a fee based on the excess VOC in each container. This fee is $0.0028 per gram VOC excess. This equates to only a little over $0.33 per excess pound of solvent per gallon of coating. It should be noted that prices of coating typically range from $15 to $40 per gallon for interior flats to hundreds of dollars per gallon for industrial maintenance coatings. Staff believe that a tine fee of this sort would not alter market behavior as intended. Record keeping and reporting requirements in the national rule are tied to the exemptions and exceedance fee, but there is also a requirement to report, to EPA, total coating sales. Both the EPA and the proposed rule require labeling of coating type and VOC content. Coatings labeled and sold in compliance with the proposed Rule 3 amendments will comply with the labeling requirements of the national rule.

DISTRICT STAFF IMPACTS

The proposed amendments to Rule 3 are not expected to result in any significant long term staff impacts. Architectural coatings are enforced at the point of sale and use. District inspection staff may visit coating sales outlets to check for compliance with labeling and collect samples to check for compliance with VOC requirements. Coating samples collected at the point of use are analyzed by District lab staff. The proposed amendments to Rule 3 involve new laboratory techniques. Those techniques are all able to be accomplished by District laboratory staff with existing equipment, with the exception of South Coast Air Quality Management District's Method 318-95, "Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction." This method utilizes analytical equipment that the District does not have. Coatings analyzed for elemental metal content (based on the definition for metallic pigmented coatings, Section 8-3-232) would have to be sent out to a commercial laboratory or to the South Coast laboratory. It is anticipated, however, that this analysis will be infrequent. Any sample of coating labeled as containing metallic pigment would be considered in or out of compliance based on VOC content, analyzed by the same District method that would be used to analyze other coatings. The only time a metallic pigmented coating sample would need to be analyzed for metal content is if there was a question about whether the coating qualified as a metallic pigmented coating according to the definition. For example, if the use of a particular coating was inconsistent with the uses of most metallic pigmented coatings, for roof coatings to reflect heat or for high temperature vessels in refineries or chemical plants, a question might arise. District staff experience is that this type of coating category opportunism is infrequent. As District laboratory staff have worked cooperatively in the past with South Coast staff in test method development and sample analysis, it is likely that an occasional sample could be analyzed by the South Coast lab.

There is currently no ongoing inspection program for architectural coatings that involves dedicated personnel, as there is for asbestos inspections. Enforcement of Rule 3 is conducted in the course of normal inspection duties, or may be the focus of a special short term program should compliance issues arise. Typically, compliance checks are more likely after the date that VOC limits first become effective. For coatings involved in an averaging plan, information related to specific companies and container labels would have to be distributed from CARB staff, however, the impact of averaging programs on District inspection staff is expected to be minimal and sporadic.

COMMENTS AND RESPONSES

To be included.

CONCLUSIONS

The proposed amendments to Rule 3 and the Manual of Procedures are technically feasible and will result in estimated emission reductions of 2.9 tons VOC per day. The amendments are consistent with statewide district efforts to adopt consistent VOC coating limits for architectural coatings.

Pursuant to the California Health and Safety Code, Section 40727, regulatory amendments must meet findings of necessity, authority, clarity, consistency, non-duplication, and reference. The proposed amendments are:

- Necessary to limit emissions of Volatile Organic Compounds from architectural coatings, and necessary to meet the requirements of Control Measure SS-11 in the District's proposed 2001 San Francisco Bay Area Ozone Attainment Plan For The National One- Hour Ozone Standard;
- Authorized by Sections 40000, 40001, 40702, 40725 through 40728 of the California Health and Safety Code;
- Clear, in that the rule is written or displayed so that it can be easily understood by the persons directly affected by it;
- Consistent with other District Rules and with the CARB's Suggested Control Measure for Architectural Coatings, and not in conflict with, nor contradictory to state or federal law;
- Non-duplicative of other statutes, rules, or regulations;
- Implementing, interpreting, or making specific the provisions of California Health and Safety Code Sections 40001 (Adoption and Enforcement of Rules and Regulations) and 40702 (Adoption of Rules and Regulations).

The proposed amendments to District Regulation 8, Rule 3: Architectural Coatings, and the proposed Manual of Procedures, Volume I, Number 7: Emission Averaging Procedures, will be discussed at a public workshop on October 22, 2001. At that workshop, comments on the Draft Environmental Impact Report will also be received and considered. Comments on the Draft EIR will be considered through November 5, 2001. Staff anticipate a public hearing to consider adoption of the proposed amendments to Rule 3 and to the Manual of Procedures, and to consider certification of a Final Environmental Impact Report, at the regular Board of Director's meeting on November 21, 2001.

References